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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,210	06/20/2000	Takehiko Suzuki	684.2173.CI	5981

7590

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Fitzpatrick Cella Harper & Scinto
30 Rockefeller Plaza
New York, NY 10112

EXAMINER

GRAINGER, QUANA MASHELL

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 04/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/597,210

Applicant(s)
Suzuki et al.

Examiner
Quana Grainger

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2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 30, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-32, 36-39, 41-45, and 47 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-32, 36-39, 41-45, and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Objections

1. Claims 28-32, 36-39, 41-45, and 47 are objected to because of the following informalities. The claims recite controlling the transfer intensity for a toner image *that has been transferred* to the transfer medium by the density of that toner image. Should there be two toner images in this recitation? Is the transfer intensity associated with the primary or secondary transfer? Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 28, 36-37, 39/37/28, 41-42, 44/42/41, 45, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Kodama et al. Kodama et al. comprises an image bearing member;

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image forming means for forming a toner image on said image bearing member, wherein the toner image is transferred onto a transfer medium from said image bearing member; density detecting means 213 for detecting a density of a toner image transferred to the transfer medium; and image forming condition control means for controlling an image forming condition by said image forming means based on the detection output of said density detection means, wherein a transfer intensity is changeable in accordance with a density of the other image for density detection formed on said image bearing member by said image forming means (Figure 15-16; column 9, line 17 - column 10, line 38).

The apparatus further comprising transfer means supplied with a voltage to transfer the toner image, wherein the transfer intensity is a voltage supplied to said transfer means. The apparatus further comprising developing means for developing a latent image formed on said image bearing member, wherein said image forming condition control means controls a voltage applied to said developing means on the basis of the detection output of said density detecting means. Kasahara et al. teaches that the detection takes place when the toner image for density detection 213 is transferred from said image bearing member to the transfer medium (Figure 15).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 38, 39/38/37/28, 43, and 44/43/42/41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al. in view of Hattori et al. Kasahara et al. does not teach an ambient condition detecting means that detects temperature.

Hattori et al. teaches that in order to provide high image quality, it is known in the art to include an ambient condition detecting means to adjust image forming condition based on the ambient conditions including temperature. It would have been obvious to one of ordinary skill in the art to adjust the image forming conditions based on ambient conditions to ensure the proper image quality.

8. Claims 28-32, 36-37, 39/37/28, 41-42, 44/42/41, 45, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al. in view of Kodama et al. Kasahara et al.

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comprises an image bearing member; image forming means for forming a toner image on said image bearing member, wherein the toner image is transferred onto a transfer medium from said image bearing member; density detecting means 39 for detecting a density of the toner image transferred to the transfer medium; and image forming condition control means for controlling an image forming condition by said image forming means based on the detection output of said density detection means, wherein a transfer intensity is changeable in accordance with a density of the other image for density detection formed on said image bearing member by said image forming means (column 5, line 55 column 6, line 29).

The transfer intensity when the toner image for density detection has a maximum density image formed on said image bearing member by said image forming means is transferred onto the transfer medium than when the toner image for density detection having a halftone density image formed on said image bearing member by said image forming means is transferred onto the transfer medium. The image forming means includes exposure means for exposing a surface of said image bearing member, which has been electrically charged to in accordance with image information with an exposure amount, which is changeable in accordance with the density of the toner image formed on said image bearing member by said image forming means (column 6, lines 22-29). The surface potential of said image bearing member exposed by said exposure means is changeable in accordance with a density of the total image for density detection to be formed on said image bearing member by said image forming means (column 6, lines 22-29).

The transfer intensity when the toner image for density detection is transferred onto the

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transfer medium is changeable in accordance with a tone gradation level of the toner image formed on said image bearing member by said image forming means. The image forming means includes exposure means for exposing a surface of said image bearing member which has been electrically charged to in accordance with image information with an exposure amount which is changeable in accordance with the density of the toner image for density detection to be formed on said image bearing member by said image forming means (column 6, lines 22-29). The apparatus further comprising transfer means supplied with a voltage to transfer the toner image, wherein the transfer intensity is a voltage supplied to said transfer means. The apparatus further comprising image forming condition control means for controlling an image forming condition by said image forming means based on the detection output of said density detecting means. The apparatus further comprising developing means for developing a latent image formed on said image bearing member, wherein said image forming condition control means controls a voltage applied to said developing means on the basis of the detection output of said density detecting means. Kasahara et al. does not teach that the detection takes place after the toner image for density detection is transferred from said image bearing member to a transfer medium.

Kodama et al. teaches density detection when the toner image for density detection is transfer from said image bearing member to the transfer medium and an ambient condition detecting means for humidity. It would have been obvious to one of ordinary skill in the art to use the teaching of Kodama et al. with the image forming device of Kasahara et al. because it is

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known in the art to detect the density of an image even after it is transferred to the recording medium.

9. Claims 38, 39/38/37/28, 43, and 44/43/42/41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al. in view of Kodama et al. and further in view of Hattori et al. Kasahara et al. does not teach an ambient condition detecting means and does not teach adjusting image forming means based on this detection.

Hattori et al. teaches that in order to provide high image quality, it is known in the art to include an ambient condition detecting means to adjust image forming condition based on the ambient conditions such as temperature. It would have been obvious to one of ordinary skill in the art to adjust the image forming conditions based on ambient conditions to ensure the proper image quality.

Response to Arguments

10. Applicant's arguments filed 1-30-2003 have been fully considered but they are moot in view of the new rejection. Applicant discusses the transfer intensity controlled based on the density detection of the detection means. It is not clear in the claim and from applicant arguments which transfer intensity is being changed. For example, the claim is unclear as to whether the primary or secondary transfer intensities are adjusted. Further, it is unclear in the claim whether the transfer medium is the paper holding device or a transfer medium (paper).

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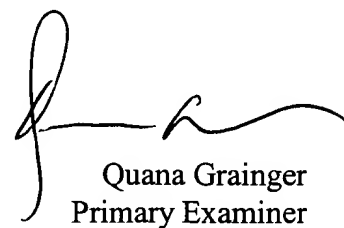
Kasahara et al. teaches a both transfer belt and a transfer device that holds paper on it circular surface. A toner image patch is transferred to the transfer belt and the holding transfer device. Kodama et al. also teaches a transfer control method where a toner patch is transferred to the transfer device.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana Grainger whose telephone number is 703-3087616. The examiner can normally be reached on weekdays between the hours of 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 703-308-1373. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.



Quana Grainger
Primary Examiner

QG
April 19, 2003